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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,186	02/19/2004	Rajiv Laroia	Flarion-72APP (97)	4101

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STRAUB & POKOTYLO
620 TINTON AVENUE
BLDG. B, 2ND FLOOR
TINTON FALLS, NJ 07724

EXAMINER	
PEREZ, JULIO R	

ART UNIT	PAPER NUMBER
2617	

DATE MAILED: 07/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/782,186	LAROIA ET AL.	
	Examiner	Art Unit	
	Julio R. Perez	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

Claim Objections

2. Claim 5 is objected to because of the following informalities: on line 12, "lower" should be changed to "low". Appropriate correction is required.

3. Claim 18 is objected to because of the following informalities: on line 2, "minimum" should be changed to "at least said first". Appropriate correction is required.

4. Claim 19 is objected to because of the following informalities: on line 1, "claim 1" should be changed to "claim 17", the examiner interprets the claim as being dependent on claim 17 and not on claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Dent (2003/0053524).

Regarding claims 1, 11, Dent discloses a communications method (and a base station) for use in a communications system including a base station and a plurality of wireless terminals, a different communications channel existing between each wireless terminal in said plurality of wireless terminals and said base station, the communications channel existing between each particular wireless terminal and the base station having a quality which is the channel quality for the particular wireless terminal, the method comprising: operating the base station to: maintain a set of channel condition information indicating the channel quality of each of said plurality of wireless terminals (paragraphs 0006-0007, Figure 1, the system includes base stations to monitor the conditions of channels); examine the set of channel condition information to identify wireless terminals having channel conditions which differ from one another by at least a pre-selected minimum amount (paragraphs 0006-0007, 0014-0017); and assign a communications channel segment to be used to communicate superimposed signals corresponding to at least two different wireless terminals identified as having channel conditions which differ by at least said pre-selected minimum amount (paragraphs 0014-0020, there exists a set of uplink propagation channels (signals) transmitted from the mobile stations to the base stations, which are, indeed, time aligned the base station, and therefore, being separated at the receivers in the base stations, which separation (which separation between signals or channels, pertaining to the amount difference between the terminals, avoids any interference results).

Regarding claims 2, 12, Dent discloses, wherein the maintained set of channel condition information includes channel signal to noise ratio information (paragraphs

0006-0007, 0014-0017); wherein said at least two different wireless terminals include a first and a second wireless terminal (paragraphs 0006-0007, 0014-0017); and wherein the minimum pre-selected amount by which the channel conditions of the first and second wireless terminals differ is 3 dB (paragraphs 0006-0007, 0014-0017).

Regarding claim 3, Dent discloses, further comprising: operating the base station to repeat said steps of maintaining, examining and assigning (paragraphs 0006-0007, 0014-0017).

Regarding claims 4, 13, Dent discloses, further comprising: operating the base station to repeat said steps of maintaining and examining (paragraphs 0006-0007, 0014-0017); and wherein when said examining step fails to identify at least two wireless terminals having channel conditions which differ by the pre-selected minimum amount having signals to be transmitted in a communications channel segment which is available to be assigned (paragraphs 0006-0007, 0014-0017), operating said base station to: assign the available communications channel segment to a single one of said plurality of wireless terminals (paragraphs 0006-0007, 0014-0017).

Regarding claim 5, Dent discloses, wherein said at least two different wireless terminals includes a first wireless terminal and a second wireless terminal (paragraphs 0006-0007, 0014-0017); wherein said assigned communications channel segment is a segment of a downlink channel (paragraphs 0006-0007, 0014-0017): wherein the first wireless terminal has a better channel quality than said second wireless terminal (paragraphs 0006-0007, 0014-0017), the method further comprising: operating the base station to transmit a first superimposed signal to the first and second wireless terminals

in said assigned communication channel segment, said first superimposed signal including a low power signal portion intended for said first wireless terminal and a high power signal portion intended for said second wireless terminal (paragraphs 0006-0007, 0014-0017), the lower power signal portion being transmitted by said base station with lower power than said high power signal portion or having less coding protection than said high power signal portion (paragraphs 0006-0007, 0014-0017).

Regarding claim 6, Dent discloses, wherein said assigned communications channel segment is a segment of an assignment channel used to communicate communications channel segment assignments to wireless terminals (paragraphs 0014-0020).

Regarding claims 7, 14, Dent discloses, operating said base station to: receive a second superimposed signal from said first and second wireless terminals, said received second superimposed signal including first and second signal portions transmitted by said first and second wireless terminals, respectively, said first signal portion being received by said base station at a higher power level than said second signal portion (paragraphs 0014-0020).

Regarding claims 8, 15, 16, Dent discloses, further comprising: operating said base station to: decode said first signal portion; subtract said first signal portion from said second superimposed signal; and decode said second signal portion (paragraphs 0014-0020).

Regarding claim 9, Dent discloses, further comprising: operating the first wireless terminal to determine which one of a plurality of received target power levels to use in

determining the transmission power to use to transmit said first signal portion from said first superimposed signal transmitted to said first and second wireless terminals in said segment of an assignment channel (paragraphs 0014-0020, 0054-0058).

Regarding claim 10, Dent discloses, wherein operating the first wireless terminal to determine which one of a plurality of received target power levels to use includes: determining whether the portion of the first superimposed signal used to communicate uplink channel assignment information to the first wireless terminal was transmitted as a low power signal portion or a high power signal portion (paragraphs 0014-0020, 0054-0058).

Regarding claim 17, Dent discloses a communications method for use in a communications system including a base station and a plurality of wireless terminals, a different communications channel existing between each wireless terminal in said plurality of wireless terminals and said base station, the communications channel existing between each particular wireless terminal and the base station having a quality which is the channel quality for the particular wireless terminal, the method comprising: operating a first wireless terminal having a first channel quality to transmit a first portion of a superimposed communications signal to said base station paragraphs 0006-0007, 0014-0017); and operating a second wireless terminal having a second channel quality to transmit a second portion of said superimposed communications signal to said base station (paragraphs 0014-0020, 0054-0058), the first and second channel qualities being different by at least a first pre-selected amount (paragraphs 0014-0020, 0054-0058), said first and second signal portions combining in the air during transmission to

the base station to form said superimposed communications signal (paragraphs 0014-0020, 0054-0058).

Regarding claim 18, Dent discloses, wherein the minimum pre-selected amount by which the channel quality of the first and second wireless terminals differ is 3 dB (paragraphs 0014-0020, 0054-0058).

Regarding claim 19, Dent discloses, further comprising: operating the first and second wireless terminals to receive, prior to transmission of said first and second superimposed signal portions, a superimposed assignment signal including a low power signal portion intended for said first wireless terminal and a high power signal portion intended for said second wireless terminal, the lower power signal portion being transmitted by said base station with lower power than said high power signal portion, said first wireless terminal having a better channel quality than said second wireless terminal, said superimposed assignment signal assigning an uplink communications channel segment (paragraphs 0014-0020, 0054-0058).

Regarding claim 20, Dent discloses, wherein the first and the second signal portions transmitted by said first and second wireless terminals, respectively, are transmitted with power levels that cause said first signal portion to be received by said base station at a higher power level than said second signal portion (paragraphs 0014-0020, 0054-0058).

Regarding claim 21, Dent discloses, further comprising: operating the first wireless terminal to determine which one of a plurality of received target power levels to

use in determining the transmission power to use to transmit said first signal portion from said superimposed assignment signal (paragraphs 0014-0020, 0054-0058).

Regarding claim 22, Dent discloses, wherein operating the first wireless terminal to determine which one of a plurality of received target power levels to use includes: determining whether the superimposed signal portion used to communicate uplink channel assignment information to the first wireless terminal was transmitted as a low power signal portion or a high power signal portion (paragraphs 0014-0020, 0054-0058).

Regarding claim 23, Dent discloses a wireless terminal including: a receiver for receiving a superimposed assignment signal including a first signal portion and a second signal portion one of said signal portions being intended for said wireless terminals with the other one of said signal portions being intended for another wireless terminal (paragraphs 0006-0007, 0014-0017), the first signal portion being received with at a lower power level than said second signal portion (paragraphs 0006-0007, 0014-0017); a superposition decoder for decoding said first and second signal portions (paragraphs 0006-0007, 0014-0017); means for determining from information included in one of said first and second signal means or portions which portion is intended for said wireless terminal (paragraphs 0014-0020, 0054-0058); and a transmitter for transmitting signals in uplink communications channel segments to which received superimposed assignment signals intended for said wireless terminal correspond (paragraphs 0014-0020, 0054-0058).

Regarding claim 24, Dent discloses, further comprising: stored received target level power information for a plurality of different received power target levels (paragraphs 0014-0020, 0054-0058); and means for determining which one of the plurality of received target power levels to use when transmitting a signal in a particular uplink communications channel segment from a received superimposed assignment signal corresponding to the particular uplink communications channel segment (paragraphs 0014-0020, 0054-0058).

Regarding claim 25, Dent discloses, wherein said means for determining includes: determines whether the superimposed signal portion used to communicate uplink channel assignment information to the wireless terminal was transmitted as a low power signal portion or a high power signal portion (paragraphs 0014-0020, 0054-0058).

Regarding claim 26, Dent discloses a communications method for use in a communications system including a base station and a plurality of wireless terminals, a different communications channel existing between each wireless terminal in said plurality of wireless terminals and said base station, the communications channel existing between each particular wireless terminal and the base station having a quality which is the communications channel quality for the particular wireless terminal, signals transmitted from the wireless terminals to the base station combining during transmission between, the method comprising: operating the base station to: assign an uplink communications channel segment to be used simultaneously by a first and second device (paragraphs 0014-0020, 0054-0058); receive a composite signal from

said uplink communications channel segment, said composite signal including a first signal transmitted by said first device and a second signal transmitted by said second device; and perform a superposition decoding operation on the received composite signal to decode the first and second signals included in said composite signal (paragraphs 0014-0020, 0054-0058).

Regarding claim 27, Dent discloses, wherein operating the base station to assign an uplink communications channel segment includes operating the base station to: select based on communications channel quality information (paragraphs 0006-0007, 0014-0017), a first wireless terminal and a second wireless terminal (paragraphs 0006-0007, 0014-0017), the first and second wireless terminals having different wireless terminal communications channel qualities (paragraphs 0006-0007, 0014-0017), to share an uplink traffic segment; and wherein the method further comprises operating the base station to: transmit to the selected first and second wireless terminals information indicating the assigned traffic channel segment and which one of the first and second wireless terminals should transmit signals to be received by said base station at a higher power level (paragraphs 0006-0007, 0014-0017).

Regarding claim 28, Dent discloses, wherein the one of the first and second wireless terminals having the better channel conditions is to be received at the base station at the higher power level, the method further comprising: operating the first wireless terminal to transmit to the base station in the assigned traffic channel segment a first signal portion; and operating the second wireless terminal to transmit to the base station in the assigned traffic channel segment a second signal portion, the first and

second signal portions superimposing during transmission to said base station (paragraphs 0006-0007, 0014-0017).

Regarding claim 29, Dent discloses, wherein the first wireless terminal transmits the first signal portion using less power than the power used by said second wireless terminal to transmit said second signal portion but the first signal portion is received by said base station with a power level that is higher than the power level of the second signal portion received by said base station (paragraphs 0006-0007, 0014-0017).

Regarding claim 30, Dent discloses, wherein said at least two different wireless terminals includes a first wireless terminal and a second wireless terminal; wherein said communications channel segment to be assigned is a segment of a downlink channel; wherein the first wireless terminal has a better channel quality than said second wireless terminal (paragraphs 0006-0007, 0014-0017); and wherein the base station further comprises: means for transmitting a superimposed signal to the first and second wireless terminals in said assigned communication channel segment (paragraphs 0006-0007, 0014-0017), said superimposed signal including a low power signal portion intended for said first wireless terminal and a high power signal portion intended for said second wireless terminal, the lower power signal portion being transmitted by said base station with lower power than said high power signal portion (paragraphs 0006-0007, 0014-0017).

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio R. Perez whose telephone number is (571) 272-7846. The examiner can normally be reached on 10:30 - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph H. Feild can be reached on (571) 272- 4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Julio R Perez
Examiner
Art Unit 2617

7/7/06

JOSEPH FEILD
SUPERVISORY PATENT EXAMINER